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SAFETY DATA SHEET

SECTION 1 IDENTIFICATION OF THE HAZARDOUS CHEMICAL AND OF THE SUPPLIER

As of the revision date above, this SDS meets the regulations in Malaysia.

PRODUCT IDENTIFIER

Product Name: MOBIL BRAKE FLUID DOT 4

Product Description: Glycol Ether

Product Code: 300936-89, 351010603010

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

Recommended Use: Brake fluid

Restrictions on Use: This product is not recommended for any industrial, professional or consumer use other

than the Recommended Uses above.

SUPPLIER DETAILS

Supplier: ExxonMobil Asia Pacific Pte.Ltd. (Company No.: 196800312N)

1 Harbour Front Place

#06-00 Harbour Front Tower One 098633 Singapore

24 Hour Emergency Telephone 1-800-815-308 / +1-703-527-3887

Supplier General Contact (+65) 6885 8000

Supplier: HT LUBRICANT SENDIRIAN BERHAD (646137-M)

90, Jin Tampoi

Johor Bahru 81200 Malaysia

 Supplier General Contact
 +607-335 3663

 FAX
 +607-335 8603

Supplier: MOBILUB TRADING SENDIRIAN BERHAD (514125-H)

No.1, Jalan Meranti Puchong, D'25@Meranti Puchong

Selangor Darul Ehsan 47120 Malaysia

Supplier General Contact +603-8066 5081 +603-8066 5087

Supplier: OPTIMUM FLUIDS MARKETING SENDIRIAN BERHAD (668909-D)

PLOT 110, LGR.PERINDUSTRIAN, BUKIT MINYAK 11

KAW.PENINDUSTRIAN, Bukit Mertajam Penang 14100 Malaysia

Supplier General Contact +604-510 2166



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Supplier: TIMUR LUBE SDN. BHD. (806793-H)

Wisma Hubline,1st Floor, Lease No.3815, Lot 10914, Section 64

KTLD, Jalan Datuk Abang Abdul Rahim

93450 Kuching

Sarawak Malaysia

Supplier General Contact +6 082 338567

SECTION 2 HAZARDS IDENTIFICATION

This material is hazardous according to regulatory guidelines (see SDS Section 15).

CLASSIFICATION:

Eye irritation: Category 2. Reproductive toxicant (developmental): Category 2. Reproductive toxicant (fertility): Category 2.

LABEL ELEMENTS:

Symbol:



Signal Word: Warning

Hazard Statements:

Health: H319: Causes serious eye irritation. H361: Suspected of damaging the unborn child. H361: Suspected of damaging fertility.

Precautionary Statements:

General: P101: If medical advice is needed, have product container or label at hand. P102: Keep out of reach of children. P103: Read label before use.

Prevention: P280: Wear protective gloves/protective clothing/eye protection/face protection. P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P264: Wash skin thoroughly after handling. P281: Use personal protective equipment as required.

Response: P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308 + P313: IF exposed or concerned: Get medical advice/attention. P337 + P313: If eye irritation persists: Get medical advice/attention.

Storage: P405: Store locked up.

Disposal: P501: Dispose of contents and container in accordance with local regulations.

Other hazard information:

PHYSICAL / CHEMICAL HAZARDS



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No significant hazards.

HEALTH HAZARDS

High-pressure injection under skin may cause serious damage. Ingestion may cause serious adverse effects and may be fatal. May cause kidney failure and central nervous system effects. Prolonged exposure to elevated concentrations of mist or liquid may cause irritation of the skin, eyes, and respiratory tract.

ENVIRONMENTAL HAZARDS

No significant hazards.

NOTE: This material should not be used for any other purpose than the recommended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 3 COMPOSITION AND INFORMATION OF THE INGREDIENTS OF THE HAZARDOUS CHEMICAL

This material is defined as a mixture.

Hazardous Substance(s) or Complex Substance(s) required for disclosure

Name	CAS#	Concentration*	GHS Hazard Codes
2-(2-METHOXYETHOXY)-ETHANOL	111-77-3	1 < 3%	H361(D)
ETHANOL, 2,2-OXYBIS-	111-46-6	3 - < 5%	H302
ETHANOL, 2-(2-(2-BUTOXYETHOXY)ETHOXY)-	143-22-6	20 < 30%	H318
ETHANOL, 2-(2-BUTOXYETHOXY)-	112-34-5	1 - < 3%	H319(2A)
POLY GLYCOL MONO BUTYL ETHER	9004-77-7	5 - < 10%	H318
TRIS[2-[2-(2-METHOXYETHOXY)ETHOXY]ETHYL]	30989-05-0	20 - < 30%	H361(D), H361(F)
ORTHOBORATE			

Note - any hazard code in brackets [Hxxx] is a GHS building block that was not adopted by Malaysia in the CLASS Regulation and therefore is not applicable in Malaysia and is shown for informational purposes only.

SECTION 4 FIRST AID MEASURES

INHALATION

Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device.

SKIN CONTACT

Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water for at least 15 minutes. Get medical assistance.

INGESTION

^{*} All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.



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Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIAN

This product contains ethylene glycol and/or diethylene glycol which, if ingested, are metabolized to toxic metabolites by the enzyme alcohol dehydrogenase, for which ethanol and 4-methylpyrazole \{U.S. drug name Fomepizole, trade name Antizol\} are antagonists. Administration of oral or intravenous ethanol or intravenous 4-methylpyrazole may arrest further metabolism of this material and thereby ameliorate the toxicity. Use of ethanol or 4-methylpyrazole does not affect toxic metabolites that are already present and is not a substitute for hemodialysis.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, alcohol-resistant foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

Inappropriate Extinguishing Media: Straight streams of water or standard foam

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent run-off from fire control or dilution from entering streams, sewers or drinking water supply. Fire-fighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Unusual Fire Hazards: Hazardous material. Firefighters should consider protective equipment indicated in Section 9.

Hazardous Combustion Products: Incomplete combustion products, Oxides of carbon, Smoke, Fume

FLAMMABILITY PROPERTIES

Flash Point [Method]: >143°C (290°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

PROTECTIVE MEASURES

Avoid contact with spilled material. Warn or evacuate occupants in surrounding and downwind areas if required, due to toxicity or flammability of the material. See Section 6 for fire fighting information. See the Hazard Identification Section for Significant Hazards. See Section 5 for First Aid Advice. See Section 8 for advice on the minimum requirements for personal protective equipment. Additional protective measures may be necessary, depending on the specific circumstances and/or the expert judgment of the emergency responders.

ENVIRONMENTAL PRECAUTIONS

Prevent entry into waterways, sewers, basements or confined areas.



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METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Land Spill: Recover by pumping or with suitable absorbent.

Water Spill: Stop leak if you can do so without risk. Warn other shipping. This product emulsifies, disperses or is miscible in water. Remove material, as much as possible, using mechanical equipment.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

SECTION 7 HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Avoid all personal contact. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is not a static accumulator.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

CONTROL PARAMETERS

EXPOSURE LIMIT VALUES

Exposure limits/standards (Note: Exposure limits are not additive)

Substance Name	Form	Limit/Standard		Note	Source	
ETHANOL, 2,2-OXYBIS-		TWA	10 mg/m3			OARS WEEL
ETHANOL, 2-(2- BUTOXYETHOXY)-	Inhalable fraction and vapour	TWA	10 ppm			ACGIH

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

Biological limits

No biological limits allocated.



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ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

Adequate ventilation should be provided so that exposure limits are not exceeded.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No protection is ordinarily required under normal conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapour warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Glove suitability and breakthrough time will differ depending on the specific use conditions. Contact the glove manufacturer for specific advice on glove selection and breakthrough times for your use conditions. Inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:

Chemical resistant gloves are recommended. Nitrile, Viton

Eye Protection: Chemical goggles are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:

Chemical/oil resistant clothing is recommended.

ENVIRONMENTAL CONTROLS

Comply with applicable environmental regulations limiting discharge to air, water and soil. Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Contact the Supplier for additional information.

GENERAL INFORMATION

Physical State: Liquid Colour: Yellow-Orange Odour: Characteristic



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Odour Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION

Relative Density (at 20 °C): 1.04 Flammability (Solid, Gas): N/A

Flash Point [Method]: >143°C (290°F) [ASTM D-92]

Flammable Limits (Approximate volume % in air): LEL: N/D UEL: N/D

Autoignition Temperature: N/D

Boiling Point / Range: > 260°C (500°F)

Decomposition Temperature: N/D **Vapour Density (Air = 1):** N/D

Vapour Pressure: N/D

Evaporation Rate (n-butyl acetate = 1): N/D

pH: N/A

Log Pow (n-Octanol/Water Partition Coefficient): N/D

Solubility in Water: Complete

Viscosity: 6.5 cSt (6.5 mm2/sec) at 40°C | >2.1 cSt (2.1 mm2/sec) at 100°C [ASTM D341]

Oxidizing Properties: See Hazards Identification Section.

OTHER INFORMATION

Freezing Point: N/D Melting Point: N/A

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: See sub-sections below.

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

INCOMPATIBLE MATERIALS: Strong oxidisers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

POSSIBILITY OF HAZARDOUS REACTIONS: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Hazard Class	Conclusion / Remarks	
Inhalation		
Acute Toxicity: No end point data for material.	Minimally Toxic. Based on assessment of the components.	
Irritation: No end point data for material.	Negligible hazard at ambient/normal handling temperatures.	
Ingestion		
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.	
material.		
Skin		
Acute Toxicity: No end point data for	Minimally Toxic. Based on assessment of the components.	



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material. Skin Corrosion/Irritation: No end point data Negligible irritation to skin at ambient temperatures. Based on for material. assessment of the components. Eye Serious Eye Damage/Irritation: No end point Irritating and will injure eye tissue. Based on assessment of the data for material. components. Sensitisation Respiratory Sensitization: No end point data Not expected to be a respiratory sensitizer. for material. Skin Sensitization: No end point data for Not expected to be a skin sensitizer. Based on assessment of the components. Aspiration: No end point data for material. Not expected to be an aspiration hazard. Based on physicochemical properties of the material. Not expected to be a germ cell mutagen. Based on assessment of Germ Cell Mutagenicity: No end point data for material. the components. Carcinogenicity: No end point data for Not expected to cause cancer. Based on assessment of the material. components. Reproductive Toxicity: No end point data Caused damage to fertility in laboratory animals, but the relevance for material. to humans is uncertain. Caused damage to the fetus in laboratory animals, but the relevance to humans is uncertain. Based on assessment of the components. Not expected to cause harm to breast-fed children. Based on Lactation: No end point data for material. assessment of the components. Specific Target Organ Toxicity (STOT) Single Exposure: No end point data for Not expected to cause organ damage from a single exposure. material. Repeated Exposure: No end point data for Not expected to cause organ damage from prolonged or repeated

OTHER INFORMATION

For the product itself:

Contains:

material.

DIETHYLENE GLYCOL (DEG): Orally, DEG is more toxic to humans than animal test data indicate. Probable lethal dose for an adult is about 50 ml (2 oz.), or 2 -3 swallows. Smaller amounts may cause kidney degeneration and failure. Benign urinary bladder tumours were observed in rats, no tumours were observed in mice. DIETHYLENE GLYCOL MONOMETHYL ETHER: Oral maternal exposure of animals resulted in teratogenicity. Dermal maternal exposure of animals resulted in slight toxicity to the fetus. GLYCOL ETHERS: Some glycol ethers cause adverse effects in animals that include the reproductive system, offspring, blood, kidney and liver. MONO- AND DI-ETHYLENE GLYCOLS: Oral exposure may produce kidney damage.

exposure. Based on assessment of the components.

IARC Classification:

The following ingredients are cited on the lists below: None.

-- REGULATORY LISTS SEARCHED--

1 = IARC 1 2 = IARC 2A 3 = IARC 2B

SECTION 12 ECOLOGICAL INFORMATION



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The information given is based on data for the material, components of the material, or for similar materials, through the

The information given is based on data for the material, components of the material, or for similar materials, through the application of bridging principals.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY IN SOIL

Material -- Expected to remain in water or migrate through soil.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Material -- Expected to be inherently biodegradable

BIOACCUMULATIVE POTENTIAL

Material -- Potential to bioaccumulate is low.

OTHER ADVERSE EFFECTS

No adverse effects are expected.

SECTION 13 DISPOSAL INFORMATION

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL METHODS

Even though this product is readily biodegradable, it must not be indiscriminately discarded into the environment. Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products. Dispose of empty container as normal refuse.

REGULATORY DISPOSAL INFORMATION

Environmental Quality (Scheduled Wastes) Regulations 2005 waste code: SW 305

Note: These codes are assigned based upon the most common uses for this material and may not reflect contaminants resulting from actual use. Waste producers need to assess the actual process used when generating the waste and its contaminants in order to assign the proper waste disposal code(s); This material is considered as hazardous waste pursuant to Environmental Quality (Scheduled Wastes) Regulations 2005.

Empty Container Warning Empty Container Warning (where applicable): Empty containers may contain residue and can be dangerous. Do not attempt to refill or clean containers without proper instructions. Empty drums should be completely drained and safely stored until appropriately reconditioned or disposed. Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations. DO NOT PRESSURISE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

SECTION 14 TRANSPORT INFORMATION

LAND: Not Regulated for Land Transport



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SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

Marine Pollutant: No

AIR (IATA): Not Regulated for Air Transport

SECTION 15 REGULATORY INFORMATION

This material is hazardous as defined by the Occupational Safety and Health (Classification, Labeling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

REGULATORY STATUS AND APPLICABLE LAWS AND REGULATIONS

Listed or exempt from listing/notification on the following chemical inventories: AllC, DSL, ENCS, IECSC, KECI, PICCS, TCSI, TSCA

National Laws and Regulations:

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000

Occupational Safety and Health (Control of Industrial Major Accident Hazards) Regulation 1996

SECTION 16 OTHER INFORMATION

List of abbreviations and acronyms that could be (but not necessarily are) used in this safety data sheet:

Acronym Full text
N/A Not applicable
N/D Not determined
NE Not established

VOC Volatile Organic Compound

AIIC Australian Inventory of Industrial Chemicals

AIHA WEEL American Industrial Hygiene Association Workplace Environmental Exposure Limits

ASTM ASTM International, originally known as the American Society for Testing and Materials (ASTM)

DSL Domestic Substance List (Canada)

EINECS European Inventory of Existing Commercial Substances

ELINCS European List of Notified Chemical Substances

ENCS Existing and new Chemical Substances (Japanese inventory)

IECSC Inventory of Existing Chemical Substances in China

KECI Korean Existing Chemicals Inventory
NDSL Non-Domestic Substances List (Canada)
NZIOC New Zealand Inventory of Chemicals

PICCS Philippine Inventory of Chemicals and Chemical Substances

TLV Threshold Limit Value (American Conference of Governmental Industrial Hygienists)

TSCA Toxic Substances Control Act (U.S. inventory)

UVCB Substances of Unknown or Variable composition, Complex reaction products or Biological materials

LC Lethal Concentration
LD Lethal Dose

LL Lethal Loading

EC Effective Concentration



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EL Effective Loading

NOEC No Observable Effect Concentration NOELR No Observable Effect Loading Rate

KEY TO THE H-CODES CONTAINED IN SECTION 3 OF THIS DOCUMENT (for information only):

H302: Harmful if swallowed; Acute Tox Oral, Cat 4

H318: Causes serious eye damage; Serious Eye Damage/Irr, Cat 1 H319(2A): Causes serious eye irritation; Serious Eye Damage/Irr, Cat 2A H361(D): Suspected of damaging the unborn child; Repro Tox, Cat 2 (Develop)

H361(F): Suspected of damaging fertility; Repro Tox, Cat 2 (Fertility)

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:

HT LUBRICANT SENDIRIAN BERHAD (646137-M): Section 01: Supplier Mailing Address information was modified. MOBILUB TRADING SENDIRIAN BERHAD (514125-H): Section 01: Supplier Mailing Address information was modified.

OPTIMUM FLUIDS MARKETING SENDIRIAN BERHAD (668909-D): Section 01: Supplier Mailing Address information was modified.

TIMUR LUBE SDN. BHD. (806793-H): Section 01: Supplier Mailing Address information was modified.

Composition: Component Table information was modified.

GHS Health Classification information was modified.

GHS Health Hazards information was modified.

Section 09: Respiratory CEN Standards - AP information was deleted.

Section 11: Reproductive Conclusion information was modified.

Section 16: HCode Key information was modified.

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